This document was submitted to EPA by a registrant in connection with EPA's evaluation of this chemical, and it is presented here exactly as submitted.

AMVAC

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March 29, 1999

Via Facsimile

Marcia E. Mulkey, Esquire
Director
Office of Pesticide Programs
Office of Prevention, Pesticides, and Toxic Substances
United States Environmental Protection Agency
401 M Street, S.W.
MC: 1119C
Washington, D.C. 20460

Re: DDVP

Dear Ms. Mulkey:

On behalf of Amvac Chemical Corporation, Dr. Judith MacGregor and Dr. Susan Youngren join me in thanking you and your colleagues for meeting with us on Friday to discuss the Preliminary Risk Assessment for Dichlorvos (DDVP). We believe the meeting was productive, and we appreciate your time.

Based on that meeting, and on a subsequent conversation between our legal counsel, Lynn Bergeson, Bergeson & Campbell, P.C., and Mr. Jack Housenger, we understand that EPA will not imminently release for public comment on the Internet, or elsewhere, the Preliminary Risk Assessment for DDVP. We also understand, based on our meeting, that EPA acknowledges Amvac's concern that there is a fundamental flaw in the process that has resulted in the DDVP Preliminary Risk Assessment, in that a large body of relevant data, likely including over 50 studies, does not appear to have been reviewed by EPA in connection with the DDVP Preliminary Risk Assessment. Amvac believes that the Preliminary Risk Assessment is not now, nor can it ever be, science-based or technically defensible without a thorough review of all relevant data.

In this regard, Amvac appends a list of studies that EPA must review in preparing a science-based Risk Assessment of DDVP. This list is not exhaustive. Rather, these are only examples of the number and kinds of studies that appear to have been missed by EPA in preparing

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the DDVP Preliminary Risk Assessment. If EPA has reviewed any of these studies, Amvac hereby requests a copy of all documents in EPA's files that reflect EPA's review and consideration of any such study.

Amvac renews its willingness and desire to schedule immediately with EPA a meeting involving pertinent EPA staff to review the studies noted in the appended, and relevant others. I will call you later tomorrow to discuss how best to proceed in scheduling the meeting.

Thank you for your assistance in this important matter.

Sincerely,

Ian S. Chart

Attachment
cc: Mr. Jack E. Housenger (w/attachment)
Mr. Dennis Utterback (w/attachment)

Incompleteness of the Literature on Dichlorvos Evaluated for the EPA HED RED

Human and Animal Health Studies

Studies that are critical to an estimate of the inhaled dose to rats in the chronic inhalation rat study by Blair et al.

Stevenson, D.E., and D. Blair. (1977). The uptake of dichlorvos during long-term inhalation studies. *Proc. Eur. Soc. Toxicol.* 18: 215-217.

Cochran, R.C., T.A. Formoli, K.F. Pfeifer, and C.N. Aldous. (1997). Characterization of risks associated with the use of molinate. *Reg. Tox. & Pharm.* 25:146-157.

Studies that determine the effects of repeated exposures of dichlorvos via inhalation.

Anonymous (1967). Safe use of pesticides in public health. WHO Tech. Report Series No. 356, WHO, Geneva, p. 46054

Foll, C.V., C.P. Pant, and P.E. Lietaert. (1965). A large-scale field trial with dichlorvos as a residual fumigant insecticide in northern Nigeria. *Bull. World Health Organ.* 32:531-550.

Funckes, A.J., S. Miller, and W. Hayes (1963). Initial field studies in Upper Volta with dichlorvos residual fumigant as a malaria eradication technique. *Bull. Org. mond. Sante Bull. Wld. Hlth Org.* 29:243-246.

Gratz, N. G., P. Bracha, and A. Carmichael. (1963). A village – scale trial with dichlorvos as a residual fumigant insecticide in southern Nigeria. *Bull. Org. mond. Sante Bull. Wld. Hlth Org.* 29:251-270.

Mathis, W., A. St. Cloud, M. Eyraud, S. Miller, and J. Hamon. (1963). Initial field studies in Upper Volta with dichlorvos residual fumigant as a malaria eradication technique. 2. Entomological evaluation. *Bull. Org. mond. Sante (Bull. Wld Hlth Org.)* 29:237-241.

Quaterman, K.D., M. Lotte, and H.F. Schoof. (1963). Initial field studies in Upper Volta with dichlorvos residual fumigant as a malaria eradication technique. 1. General considerations. *Bull Wld Hlth Org.* 29:231-235.

Stein, W.J., S. Miller, and L.E. Fetzer, Jr. (1966). Studies with dichlorvos residual fumigant as a malaria eradication technique in Haiti. III. Toxicological studies. *Am. J. trop. Med. Hyg.* 15(5):672-675.

Leary, J.S., W.T. Keane, C. Fontenot, E.F. Feichmeir, D. Schultz, B.A. Koos, L. Hirsch, E.M. Lavor, C.C. Roan, and C.H. Hine. (1974). Safety evaluation in the home of polyvinyl chloride resin strip containing dichlorvos (DDVP). *Arch Environ. Health* 29:308-314.

The Kettering Laboratory. (1965). *Evaluation of Safety in the Use of Vapona Insecticide Resin Vaporizers*. University of Cincinnati, June, 1965.

Walker, A.I.T., D. Blair, D.E. Stevenson, and P.L. Chambers. (1972). An inhalation toxicity study with dichlorvos. *Arch Toxicol.* 30:1-7.

Additional information regarding the time course for achieving steady state after repeated exposure to dichlorvos.

Hass, D.K., J.A. Collins, and J.K. Kodama. (1972). Effects of orally administered dichlorvos in Rhesus monkeys. *J.A.V.M.A.* 161(6):714-719.

Exposure Studies

Residential Pest-Strips:

Elgar, K.E., B.L. Mathews, and P. Bosio. (1972). Dichlorvos residues in food arising from the domestic use of dichlorvos PVC strips. *Pestic Sci* 3:601-607.

Elgar, K.E., B.L. Mathews, and P. Bosio (1972). Vapona strips in shops – residues in foodstuffs. *Environ. Qual. Safety* 1:217-221.

Elgar, K E., and B.D. Steer (1972). Dichlorvos concentrations in the air of houses arising from the use of dichlorvos PVC strips. *Pestic Sci.* 3:591-600.

Leary, J.S., W.T. Keane, C. Fontenot, E.F. Feichmeir, D. Schultz, B.A. Koos, L. Hirsch, E.M. Lavor, C.C. Roan, and C.H. Hine. (1974). Safety evaluation in the home of polyvinyl chloride resin strip containing dichlorvos (DDVP). *Arch Environ. Health* 29:308-314.

USEPA. 1990. Nonoccupational Pesticide Exposure Study (NOPES). Atmospheric Research and Exposure Assessment Laboratory. Research Triangle Park, NC. EPA/600/3-90/003. January. Also reported in: Whitmore, R.W., F.W. Immerman, D.E. Camann, A.E. Bond, R.G. Lewis, and J.L. Schaum. (1994). Non-occupational exposures to pesticides for residents of two U.S. cities. *Arch. Env. Contam. Toxicol.* 26(1):47-59

Zavon, M.R., and E. A. Kindel. (1966). Potential hazard in using dichlorvos insecticide resin. *Organic Pesticides in the Environment. Advanced Chemical Series* 60:177-186.

Occupational Pest-Strips:

Deer, H.M., E.D. Beck, and A.H. Roe. (1993). Respiratory exposure of museum personnel to dichlorvos insecticide. *Vet Hum Toxicol* 35(3):226-228.

Occupational Applicator:

Das, Y.T., P.K. Taskar, H.D. Brown, and S.K. Chattopadhyay. (1983). Exposure of professional pest control operator to dichlorvos (DDVP) and residue on house structures. *Toxicol. Lett.* 17:95-99.

Hayes, A.L., R.A. Wise, and F.W. Weir. (1980). Assessment of occupational exposure to organophosphates in pest control operators. *Am. Ind. Hyg. Assoc. J.* 41(8):568-575.

Wright, C.G., and R.B. Leidy. (1980). Insecticide residues in the air of buildings and pest control vehicles. *Bull. Environ. Contam. Toxicol.* Apr. 24(4):582-9.

Risk Assessment

Sensitive Sub-Populations and Inter-individual Variability:

Cavagna, G., G. Locali, and E.C. Vigliana. (1970). Exposure of newborn babies to <<Vapona>> insecticide. *European Journal of Toxicology* III:49-57.

Cavagna, G., G. Locali, and E.C. Vigliana. (1969). Clinical effects of exposure to DDVP (Vapona) insecticide in hospital wards. *Arch Environ Health* 19:112-123.

Tracy, R.L., J.G. Woodcock, and S. Chodroff, S. (1960). Toxicological aspects of 2,2'-dichlorovinyl dimethylphosphate (DDVP) in cows, horses, and white rats. *J. Econ. Entomol.* 53(4):593-601.

Uchiyama M., T. Kawakami, and H. Hiuga. (1967). *Effect of Vapona Strips to human beings and the method of determination of DDVP concentration in the air.* Pharmaceutical Dept., Faculty of Medicine, Tohoku University.

Vigliani, E.C. (1971). Exposure of new born babies to Vapona insecticide. *Toxicol. Appl. Pharmacol.* 19:379-380.